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EXAMINER

QUAN, ELIZABETH S

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,087

Applicant(s)

GULZOW ET AL.

Examiner

Elizabeth Quan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,31,32,34,36-42 and 59-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,31,32,34,36-42 and 59-61 is/are rejected.
- 7) ☒ Claim(s) 1 and 59 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "2" has been used to designate both holes and frame. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The amendment filed 10/20/2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: "Generally, the vessels can be positively, formlockingly connected to the plate and/or can be non-positively, frictionally connected with the plate and/or be connected by molding the vessels in holes having varying cross-sections in an axial direction and/or to the marginal area of the holes on at least one side of the plate while connecting them thereto in a non-positive manner. With a vessel being molded in a hole, it becomes bonded to the plate by the material the vessel is made of." in section 015 of the amended specification; "the vessel bottom of each vessel is provided with a molding point, which is generally known as a gate mark" in section 016; "edge-side molding points, i.e. molding points provided on the frame edge" in section 017; "it is a plastic which is capable of getting connected to the plastic of microtitration plate 1' by being bonded" in section 049.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

3. Claim 1 is objected to because of the following informalities: The recitation of "...the vessels (3) are positively connected to the plate (4) at least on one side of the upper surface and the underside (7,8) thereof" is confusing since the specification refers to the top and bottom sides of the plate as the upper surface and underside, respectively. The current claim appears to recite that each of the upper surface and underside has more than one side and that the vessel is positively connected to at least one side of each of the upper surface and underside. It appears Applicant is trying to recite that the vessels are positively connected to at least one of the sides of the plate. Suggested modification: "...the vessels (3) are positively connected to the plate (4) by at least one of the upper surface and the underside..." Additionally, reference character (7) should be associated with the upper surface, and reference character (8) should be associated with the underside. "Second" from the third line of the claims should be omitted since a "first" has not been recited. Appropriate correction is required.

4. Claim 59 is objected to because of the following informalities: upper wall portion in the last line should be assigned reference character (11) instead of reference character (12). Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1, 31, 32, 34, 36-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which

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was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is confusing and contradictory when claim 1 associates positive connection with vessels molded to the holes having a variable cross-section in an axial direction and marginal areas of the holes when the specification associates positive connection with formlocking connection and non-positive connection with frictional connection and/or connection by molding the vessels in holes having varying cross-sections in an axial direction and/or to the marginal area of the holes on at least one side of the plate while connecting them thereto in a non-positive manner. Furthermore, although the amended specification attempts to define positive and non-positive connection, these definitions do not distinguish the two types of connections. It is also unclear what "formlocking" is. Referring to claim 37, the specification appears to associate molding points with gate marks, which is unknown. All other claims are rejected based on their dependency on claim 1.

7. Claims 1, 31, 32, 34, 36-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Referring to claim 1, the specification appears to associate positive connection with formlocking, which is unknown. Referring to claim 37, the specification appears to associate molding points with gate marks, which is unknown. It is unclear if edge-side molding points are equivalent to gate marks. However, molding points in general do not always result in gate marks. All other claims are rejected based on their dependency on claim 1.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claims 1, 31, 32, 34, 36-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
10. Claims 1 and 37 are rendered indefinite since it is unclear what positive and non-positive connections and molding points, specifically edge-side molding points, are and the specification does not provide an adequate description. The specification replaces these unknown terms with other unknown terms, such as formlocking and gate marks. It is unclear if edge-side molding points are equivalent to gate marks. However, molding points in general do not always result in gate marks.
11. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the frame and plate. It is necessary to have a structure, such as a frame and plate, in order for a multiplicity of holes to exist therethrough.
12. Claims 36-39 recite the limitation "the frame" in various places. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claims 1, 31, 32, 34, 36, 38-41, 59-61 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,340,589 to Turner et al.

Referring to claims 1, 36, 38-41, 59-61, Turner et al. disclose a microtitration plate (10) comprising a frame (11) and multiplicity of vessels (14) (see FIG. 1). The frame (11) is made of a stiff plastic from the amorphous polymer family, such as glass filled polycarbonate (see COL. 9, lines 41-67; COL. 10, lines 1-15; COL. 11, lines 32-62). The frame has a plate with a multiplicity of holes (13) (see FIG. 1; COL. 8, lines 54-67; COL. 9, lines 1-40). The frame (11) has a bordering (17a, 17b, 17c, 17d) protruding from the underside of the frame (11) at the edge of the plate (see FIGS. 1, 2a, 2b, 2c, 4, and 5). The multiplicity of vessels (14) is made of a relatively soft plastic suitable for PCR and exhibiting permeability to oxygen, such as polypropylene (see COL. 10, lines 26-67; COL. 11, lines 1-31). The multiplicity of vessels (14) is fixedly connected to the plate such that a portion of the vessels (14) protrudes from the underside (see FIGS. 1, 4, and 5; COL. 4, lines 60-62; COL. 6, lines 28-67; COL. 7, lines 1-45; COL. 8, lines 43-53; COL. 12, lines 23-67; COL. 13, lines 1-67; COL. 14, lines 1-27).

The limitations of directly molding the multiplicity of vessels (14) to the holes (13) and positively connecting the vessels to the plate at least on one side of the upper surface and the underside thereof by at least one of being molded to the holes having a variable cross-section in an axial direction and by being molded to the marginal areas of the holes have been construed as a process of making limitation (MPEP 2113). Patentability is based on the product and does not depend on its method of production. If the product is the same or obvious over a product of the

prior art, the claim is unpatentable even though the prior art product was made by a different process. According to *In re Casey*, 152 USPQ 235 (CCPQ 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In this case it would not matter whether or not the microtitration plate is molded or positively connected by how it was molded since the claimed microtitration plate is structurally the same as the microtitration plate of Turner et al. It is noted, however, that Turner et al. disclose that the multiplicity of vessels (14) are fixedly connected to the plate by molding them to the holes (13) of the plate (see COL. 4, lines 60-62; COL. 6, lines 28-67; COL. 7, lines 1-45; COL. 8, lines 43-53; COL. 12, lines 23-67; COL. 13, lines 1-67; COL. 14, lines 1-27). The multiplicity of vessels (14) is accessible from the upper surface (15) of the plate through apertures (32) (see FIG. 1, 4, and 5).

The vessels (14) are connected to the plate at least one portion of the sides of the vessel (14) and plate. Examiner has interpreted non-positive connection as molding the vessels and attaching them to the holes in a non-exacting manner, such that the variations in the vessels and holes contribute to a non-exacting fit. Examiner has interpreted positive connection as molding the frame and vessels in one step or molding the vessels directly on the holes or using a single mold for the vessels and frame, such that the vessels exactly fit over the holes. Turner et al. disclose the molding of vessels of inherently variable cross-section in an axial direction over the

respective holes of inherently variable cross-section in an axial direction for a non-positive fit (see COL. 4, lines 60-62; COL. 6, lines 28-67; COL. 7, lines 1-45; COL. 8, lines 43-53; COL. 12, lines 23-67; COL. 13, lines 1-67; COL. 14, lines 1-27). Turner et al. also disclose the technique of using a single mold for a positive connection (see COL. 4, lines 60-62; COL. 6, lines 28-67; COL. 7, lines 1-45; COL. 8, lines 43-53; COL. 12, lines 23-67; COL. 13, lines 1-67; COL. 14, lines 1-27).

Referring to claims 31, 32, 34, the vessels (14) have a wall portion (14a) of a thin wall thickness of about 0.15 mm to about 0.25 mm (see FIGS. 1, 3b, 3c, 4, and 5; COL. 11, lines 5-55; COL. 12, lines 1-22). Examiner has interpreted that the claim is reciting that the wall with a very small thickness is adjacent to the vessel bottom. In this case wall portion (14a) is adjacent to the vessel bottom (14b) (see FIGS. 1, 3b, 3c, 4, and 5; COL. 11, lines 5-18). Examiner has interpreted that the claim is reciting that the vessels have an upper wall portion connected to the plate. In this case the vessels (14) have an upper wall portion with collar (34) of increased wall thickness relative to wall portion (14a) that is connected to the plate (see FIGS. 1, 3b, 3c, 4, and 5; COL. 10, lines 53-67; COL. 11, lines 5-19). The vessels (14) have a substantially cup-shaped bottom (14b) and thin wall portions (14a) that tapers to form a cone shape (see FIGS. 1, 3b, 3c, 4, and 5). Examiner has interpreted "and, in a wall portion (11) adjoining it, are a wall thickness which gradually increases upwardly" as the wall portion with a wall thickness which increases upwardly adjoins the thin, tapering wall portion. In this case the vessels (14) have a wall portion of a wall thickness gradually increasing upwardly to collar (34) and adjoining the thin wall portion (14a) (see FIGS. 1, 3b, 3c, 4, and 5).

Referring to claims 37 and 60, Examiner has interpreted molding points as points that are molded. Examiner has interpreted edge-sided molding points as points at the edges and sides that are molded. Turner et al. disclose that the entire microtitration plate may be molded, including the vessel bottoms and frame and its sides and edges. Inherently, the vessel bottoms and the sides and edges of the frames have infinite molding points. Furthermore, the limitation has been construed as a process of making limitation, which is accorded no patentable weight since it does not result in an apparatus that is structurally different from that of the prior art.

15. Claims 1, 31-37, 40, 41, 59-61 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,475,610 to Atwood et al.

Referring to claims 1, 36, 40, 41, 59-61, Atwood et al. disclose a microtitration plate comprising a frame (342) and multiplicity of vessels (376) (see FIGS. 21A and 21B). The frame (342) is made of a relatively stiff plastic (see COL. 38, lines 28-35). It is noted that everything has a degree of stiffness. The frame (342) has a plate with a multiplicity of holes (see FIGS. 21A and 21B). The frame (342) has a bordering protruding from the underside of the frame (342) at the edge of the plate (see FIGS. 21A and 21B). The multiplicity of vessels (376) is made of a relatively soft plastic suitable for PCR and exhibiting permeability to oxygen, such as polypropylene (see COL. 40, lines 10-18). The multiplicity of vessels (376) is fixedly connected to the plate such that a portion of the vessels (376) protrudes from the underside (see FIGS. 21A and 21B; COL. 39, lines 3-59; COL. 40, lines 34-67; COL. 41, lines 1-20). There is inherent frictional connection between the vessels and plate.

The vessels (376) are connected to the plate at least one portion of the sides of the vessel (376) and plate. Examiner has interpreted non-positive connection as molding the vessels and

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attaching them to the holes in a non-exacting manner, such that the variations in the vessels and holes contribute to a non-exacting fit. Examiner has interpreted positive connection as molding the frame and vessels in one step or molding the vessels directly on the holes or using a single mold for the vessels and frame, such that the vessels exactly fit over the holes. Atwood et al. disclose the importance of a good fit between the vessels (376) and holes for good thermal conductance (see COL. 39, lines 3-59).

The limitations of directly molding the multiplicity of vessels (14) to the holes (13) and positively connecting the vessels to the plate at least on one side of the upper surface and the underside thereof by at least one of being molded to the holes having a variable cross-section in an axial direction and by being molded to the marginal areas of the holes have been construed as a process of making limitation (MPEP 2113). Patentability is based on the product and does not depend on its method of production. If the product is the same or obvious over a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process. According to *In re Casey*, 152 USPQ 235 (CCPQ 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In this case it would not matter whether or not the microtitration plate is molded or positively connected by how it was molded since the claimed microtitration plate is structurally the same as the microtitration plate of Atwood et al.

Referring to claims 31, 32, 34, the vessels (376) have a wall portion (368) of a thin wall thickness of about 0.009 +/- 0.001 inches or about 0.20 mm to about 0.25 mm (see FIGS. 15, 21A, and 21B; COL. 40, lines 4-6). Examiner has interpreted that the claim is reciting that the wall with a very small thickness is adjacent to the vessel bottom. In this case wall portion (368) is adjacent to the vessel bottom (see FIGS. 15, 21A, and 21B). Examiner has interpreted that the claim is reciting that the vessels have an upper wall portion connected to the plate. In this case the vessels (376) have an upper wall portion with collar (384) of increased wall thickness relative to wall portion (368) that is connected to the plate (see FIGS. 15, 21A, and 21B). The vessels (376) have a substantially cup-shaped bottom and thin wall portions (368) that tapers to form a cone shape (see FIGS. 15, 21A, and 21B). Examiner has interpreted "and, in a wall portion (11) adjoining it, are a wall thickness which gradually increases upwardly" as the wall portion with a wall thickness which increases upwardly adjoins the thin, tapering wall portion. In this case the vessels (376) have an upper wall portion of a wall thickness gradually increasing upwardly to collar (384) and adjoining the thin wall portion (see FIGS. 15, 21A, and 21B).

Referring to claims 37 and 60, Examiner has interpreted molding points as points that are molded. Examiner has interpreted edge-sided molding points as points at the edges and sides that are molded. Turner et al. disclose that the entire microtitration plate may be molded, including the vessel bottoms and frame and its sides and edges. Inherently, the vessel bottoms and the sides and edges of the frames have infinite molding points. Furthermore, the limitation has been construed as a process of making limitation, which is accorded no patentable weight since it does not result in an apparatus that is structurally different from that of the prior art.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,340,589 to Turner et al. or U.S. Patent No. 5,475,610 to Atwood et al. in view of U.S. Patent No. 5,853,894 to Brown and U.S. Patent No. 5,516,491 to Kath et al. and U.S. Patent

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No. 4,072,243 to Conant et al. and U.S. Patent No. 4,746,490 to Saneii and U.S. Patent No. 4,564,359 to Ruhland.

Referring to claims 41 and 42, neither Turner et al. nor Atwood et al. disclose vessel made of liquid silicone rubber (LSR). However, it is very well known to coat a vessel with liquid silicone rubber for a host reasons. Brown discloses silicone is often used to manufacture low-cost laboratory vessels, which are compatible with coatings that provide extremely low surface energies and high resistance to solvent attack (abstract; col. 5, lines 26-63). Even those that have been pre-coated with silicone can be coated with these new and improved coatings (col. 5, lines 26-63). Kath et al. disclose that dipping polypropylene vessels in silicone rubber provides a better septum seal since upon piercing the polypropylene partially reseals the hole (see COL. 3, lines 1-8). Conant et al. disclose that coating brittle non-metallic engineering materials, including items for the laboratory, with certain films such as silicone yields products with good impact strength, shock resistance, good heat distribution, good pressure capability, and extremely high safety factor (see ABSTRACT; COLS. 8 and 9; CO. 10, lines 1-10). Saneii discloses that reaction vessels are preferably silicone coated to prevent resin particles, which carry the chemical or biological material of interest, from adhering to the reaction vessel walls (see COL. 11, lines 50-54). Ruhland discloses that silicon rubber is a blood friendly compatible material, which is very good when DNA sample for PCR is obtained from a blood samples (see COL. 5, lines 11-14). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the vessel of Turner et al. or Atwood et al. to made it out of liquid silicone rubber for low-cost lab vessels compatible with coatings that provide extremely low surface energies and high resistance to solvent attach as in Brown and for

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a better septum seal as in Kath et al. and stronger container with good heat distribution as in Conant et al., preventing resin particles from adhering to reaction vessel walls as in Saneii, and accommodating blood samples.

20. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,475,610 to Atwood et al. in view of U.S. Patent No. 6,063,282 to Moulton and/or U.S. Patent No. 6,027,695 to Oldenburg et al. and/or U.S. Patent No. 6,040,171 to Ho et al.

Referring to claims 38 and 39, Atwood et al. do not disclose the frame made of an amorphous plastic, such as polycarbonate. Moulton discloses a frame (12) made of polycarbonate, which is resistant to organic solvents and enable a human user to view the contents or processes occurring from within (see COL. 2, lines 61-67; COL. 3, lines 1-3). Oldenburg et al. disclose making the microtiter plate from a high reflective material such as polycarbonate to enhance the performance of the plate when used for luminescence measurements (see COL. 8, lines 30-35). Ho et al. disclose that the microplate is preferably formed from a material, such as polycarbonate for its optical transmission properties (see COL. 3, lines 32-35). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the microtitration plate of Atwood et al. to make the frame from polycarbonate for a frame resistant to organic solvents and enabling a human user to view within the frame as in Moulton and/or performance enhancement of the microtiter plate when conducting luminescence measurements as in Oldenburg et al. and/or particular optical transmission properties as in Ho et al.

Response to Arguments

21. Applicant's arguments filed 10/20/2003 have been fully considered but they are not persuasive. Examiner notes that the device claims are embedded with steps drawn to a method of making.

22. Applicant maintains that according to claim 1 the vessels are positively connected to the frame so that the vessels are not detached from the frame when a strong force acts against the vessel bottom. Applicant further maintains that these forces only results in elastic deformation of the microtitration plate because the strong positive connections between the vessels and the frame hinders the vessels from being detached from the frame. Examiner points out that the frame has not been positively recited in claim 1. Examiner also notes that the specification has not provided an adequate working definition of positive connection. The specification has not assigned the characteristic of vessels not detached from the frame when a strong force acts against the vessel bottom to positive connection. Therefore, Examiner has reasonably and broadly interpreted positive connection and examined the claims accordingly. Furthermore, in Turner et al., the vessels are positively connected to the frame so that the vessels are not detached from the frame when a strong force acts against the vessel bottom since they may be formed unitarily. In Atwood et al. it appears there is a positive connection between the vessel and plate since it appears the vessels would not be detached from the frame when a strong force acts against the vessel bottom. Nevertheless, the prior art fulfills Examiner's interpretation of positive connection to exactly fit the vessel over the holes since Atwood et al. require perfect fit between the vessels and holes and Turner et al. suggest insert or unitarily molding the vessels with the frame to result in a perfect fit between the vessels and holes.

23. Applicant maintains that the vessels in Turner et al. are only hindered by material connection respectively adhesion from being alleviated and detached from the plate when the microtitration plate is inserted into a thermo-block for PCR. Examiner maintains that the term positive connection or for that matter formlocking does not exclude non-material connections or restrict horizontal and vertical freedom of vessels. The specification does not restrict the connection to such connections, and these terms are not in the dictionary and not well known in the art.

24. Applicant maintains that molding of vessels with a small wall thickness would be delicate and could lead to tolerances and waste in Turner et al. and multiple part arrangement is very expensive and not easy to handle. Examiner maintains that it meets the limitations in the claims whether it is advantageous or not.

25. Examiner submits that claims 59-61 are not yet in condition for allowance. In both Turner et al. and Atwood et al. the collar is of increased thickness relative to the other wall portions of the vessel. They both show that the collar is connected to the plate in order to support and/or center the vessel in the holes of the frame. Referring to claim 60, molding points do not structurally differentiate the device from the prior art. They are also not necessarily gate marks.

Conclusion

26. The marked-up copy of the claims fails to show claim 1 with a line through "a frame (2) made of a stiff first plastic which has a plate (4) with a" to show the deletion.

27. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

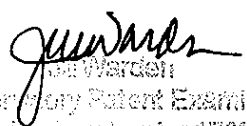
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Quan whose telephone number is (571) 272-1261. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Elizabeth Quan
Examiner
Art Unit 1743

eq


Jill Warden
Supervisory Patent Examiner
Telephone Number 1700